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# Computers and children's leisure time

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## Abstract

This work focuses on contemporary trends in leisure time activities of children with an emphasis on the growing impact of information and communication technologies. We spend more and more time at the computer, which greatly affects the lifestyle of all of us, especially teenagers and children. This study presents the results of a quantitative research survey focusing on the place of computer games and social networks in the leisure of children - how much time children spend at the computer during the week and during the holidays; in what kinds of activities they engage; how much time they devote to playing computer games, the Internet and social networks. The contribution deals with the benefits, but also the negative effects that computers produce.

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**Keywords:** Children, leisure time, computers, lifestyle.

## 1. Introduction

The topic of leisure time raises very pleasant feelings and thoughts of a time spent according to our interest, mood and possibilities. Our lifestyle and ways of spending free time are determined by our activities and the environment in which we grow up and live. On one hand, we are gaining possibilities such as mass communication, access to information or new technologies; however, the staggering pace of the technological revolution has its darker side as well. This concerns the spread of lifestyle diseases, social pathological phenomena and more and more frequent break-up of marriage and families and their communication. Another problem of contemporary families is insufficient communication between their members, which is realized via telephone calls, SMS, e-mails, chat, the Internet and social networks. These forms of communication are very comfortable but also impersonal, the result

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being a deterioration of family relationships. Modern communication and information technologies can be used both in good and bad ways.

Children dispose of a wide range of possibilities of spending their free time. The contemporary generation of children are excited about the new technological conveniences. (EU Kids, 2011) This is hardly surprising considering that many parents buy for their children the latest interactive toys since their infancy. These toys make sounds, shine with bright colours and are simply irresistible. The computer is a device found in every household and it is a common and indispensable tool influencing contemporary world. Children come into contact with computers before their enter school and use them to spend free time, to engage in attractive forms of entertainment and sometimes to communicate with their families.

The objective of the research survey was to describe current trends and ways of spending free time favoured by youths at secondary schools in the Czech Republic, focussing on the use of information and communication technologies and its impacts. Secondary objectives were to find out how much time children spend at the computer and whether they use this time also for education or solely for entertainment, furthermore, the research deals with the issue of the responsibility of parents, who should be aware of their children's ways of spending free time as well as the risks connected with spending several hours a day at the computer.

The use of free time is affected by many factors, such as natural and social conditions, personal circumstances and possibilities. Relying in the opinions of experts, we may define leisure time as a time span enabling free choice of activities, in which the individual engages willingly and which bring satisfaction and pleasant experiences.

Pávková et al. (2008) claim that we understand the term leisure time as "the opposite of obligatory work and duties, a time when we are allowed the free choice of activities, in which we engage voluntarily and with pleasure and which raise the feelings of satisfaction and relaxation." They include the following under the term leisure time: "relaxation, recreation, entertainment, hobbies, voluntary education, voluntary socially beneficial activities and time connected with them." The need for free time varies from person to person and so does our idea of free time. The use of children's free time depends to a large extent on their parents. They should profit from the possibilities offered by various organizations providing leisure time activities and consider the child's character and talents as well as his/her interests and choose an activity which will enable him/her to be successful in it and find satisfaction of his/her needs.

Children do not make a strict division between leisure time and other activities, games, work and educational activities; it is the motivation, competitiveness, emotions and natural curiosity which are crucial. (Charvátová, 2007) Games are an integral part of free time and the child should feel that s/he is not forced to do the activities and that leisure time brings pleasant amusement developing his/her abilities. The world of computers is very attractive to children because of its interactivity, accessibility and simplicity. Moreover, for the parents, the easiest way of attracting the child's attention and keeping him/her occupied often is to turn on the computer. The result is that the parents have plenty of time for themselves, they do not need to provide any other activities and most children, even the hyperactive ones, find computers compelling. Unfortunately, parents often use computers as a substitute for other possible leisure activities. They do not realize that prolonged time spent at the computer might be harmful to the children.

The development of personality is greatly affected by education and the social environment in which the child grows up. According to Pávková et al. (2008, , p. 15) it is the family who plays the key role in education, followed by preschool and school establishments and gradually by other institutions providing leisure activities. During adolescence, there is a strong influence of relationships with peers, which determine the choice of free time activities. Other important factors which have to be taken into account are mass media and information technologies, which play a significant role in interpersonal communication and which have become a common part of our lives. All of these influences overlap and supplement one another and a problem might occur at any stage of personality development, therefore it is meaningful to support young people and help them to overcome difficulties. Still, the cornerstone of forming interpersonal relationships as well as models is the family and the environment in which we grow up. Children gain the first experience of spending free time in the family. They perceive their parents as models and imitate their behaviour and lifestyle.

Nowadays, leisure time activities are a common part of our lives and the lifestyle of the family and its surroundings. *Lifestyle* is defined by Žumárová (2001, p. 158) as "an individualized and optimal organization of life into a harmonic whole. Lifestyle is characterized as a large complex of activities and the related attitudes, norms,

values and habits, which has a lasting character and is specific for every person, expressing his/her individuality. The lifestyle of every individual is embedded in the wider social context, it is affected by historical development, traditions and the cultural and economic level of society.“ Kraus (2014, p. 173) draws our attention to the influence of information technologies in contemporary world, pointing out the “current phenomenon of the global forming of lifestyle being affected by the World Wide Web. This medium strongly supports the spread of global or consumerist lifestyle. Today, mass media announce what is new on the market, to what we should look forward, how to make money and how to live. Sadly, this suppresses creative lifestyle, which encourages imagination, delight taken in being active and satisfaction from fulfilling one’s duties.“

The computer has become an entirely common device for the majority of us. Children see their parents use it and are not afraid of new technologies, neither the possibilities that computers offer. It is mostly elderly people who may have such worries, since working with computers makes them feel insecure. (Palyza, 2011) Children should gain the knowledge and experience necessary to work with computers and make active use of their assets and this knowledge should be provided mainly by their parents and teachers. The world of computers is very appealing and exciting to children and young people because it opens nearly limitless possibilities to develop one’s ideas and thoughts and present them to other people. The young generation are not afraid of new technologies, they try out new possibilities and are attracted by the increasingly sophisticated and more powerful machines. (Nešpor, 1999) Teachers as well as parents should improve their knowledge and skills concerning computers and communication in order to be able to advise the children and show them how to make use of computers for their studies or their work in the future.

## **2. Empirical inquiry**

### *2.1. Research question*

The purpose of the research was to find out how much time children spend at the computer and whether this time span becomes longer during the holidays. Furthermore, the research deals with the fact that computer activities have become one of the most frequent ways of spending free time for children. This is why we also examined how the children spend the time with computers, whether they use them to find new information and to study or solely for entertainment in the form of computer games, chat and social networks. We were also interested in the risks connected with computer games or surfing on the Internet. In all of these areas, we verified whether there are any statistically significant differences depending on gender.

### *2.2. Research methods*

The quantitative empirical survey was based on a questionnaire supplemented by interviews with pedagogues teaching ICT at the secondary schools attended by the respondents. We distributed the questionnaires personally in printed form and the pupils were informed of their purpose and instructed how to fill them in. The pupils filled the questionnaires in in ICT classes under the supervision of their teacher. In order to assure objectivity the questionnaires were anonymous. The questionnaire comprised 26 items and was divided into four parts. Part one focused on the basic personal data (gender, age etc.) and the activities in which the respondents engage during their leisure time. Some of the questions were bipolar, some were closed and some open. Part two dealt with the time spent at the computer and the specific activities of the respondents. The respondents were asked for a subjective estimate of the average time spent at the computer per working day. Part three concerned computer games. The respondents gave the frequency of playing computer games and the types of games which they play most. The final part focused on the risks connected with computers and computer games.

### *2.3. Research sample*

The survey was carried out at seven secondary schools in the region of Hradec Králové in the course of November and December 2013. 857 pupils from secondary schools participated, 425 were boys and 432 were girls. They were aged from 12 to 14 years.

## 2.4. Results and discussion

The objective of the research was to find out how computers affect leisure activities of children at secondary schools. The obtained data show that 83,27 % of pupils have their own computer at home. Almost one half of the parents (44,74 %) use computers in their job and more than one half (67,32 %) use them at home. Thus, it is obvious that a computer is almost in every household and it is a part of common life. Computers represent a means of spending free time, which is supported by the fact that 63,81 % of children use them every day, while mere 36,19 % do not.

We also asked about the activities in which the children engage in their leisure time. They were given the following options: I do a sport, I attend art school, I spend a lot of time with my friends, I listen to music, I read books, I watch TV, I enjoy cultural activities (cinema, theatre) and I spend my free time otherwise. The pupils were allowed to choose more than one option. The most frequent leisure time activity of girls is listening to music (20 %), 16 % spend their time with friends, the time at the computer comes third with 14 %, followed by sports and TV with 13 %. Activities such as reading books, art school, culture and other activities all had below 10 %. Boys spend their free time mostly at the computer (19 %), second come sports and time with friends (18 %) followed by TV and listening to music (15 %), the remaining activities having below 10 % - reading books (8 %), culture, art school and other.

If we compare the two groups we see that computer activities are more frequently done by boys than girls (the difference being 5 %). Furthermore, sport is one of the top activities of boys and is less often preferred by girls (the difference being again 5 %). Girls attend art school more often (4% difference). Other activities are favoured more or less equally by boys and girls. Nevertheless, it is not possible to state that there are statistically significant differences depending on gender. Still, the results clearly show that computers have become one of the favourite means of spending free time for children at secondary schools.

### 2.4.1 Average time spent at the computer and the most frequent computer activities

The obtained data indicate that on average, children spend 2,47 hours a day at the computer and there is no statistically significant difference depending on gender. The most frequent answer was that the respondents spend 3 hours per working day at the computer. Children have more leisure time during the holidays, which they spend at the computer. We asked about the time spent at the computer at the weekend (i.e. on Saturdays and Sundays). The answers suggest that in this case the average time is 3,475 hours, which is approximately 1 hour more than on working days. On average, girls spend 2,273 hours a day at the computer at the weekend, while in boys the figure is 4,752. There is a statistically significant difference this time. We suppose that the time may be even longer during the holidays, however, it would probably depend on the season. Computers offer a wide range of activities. One of the goals of our research study was to find out in which computer activities children engage. Several activities were proposed in the questionnaire with the possibility to choose more than one option and add one's own.

The most frequent computer activity in boys are computer games (26,15 %), which confirms the statement that boys play computer games more than girls. Second comes search for information (16,49 %, the nature of the information was not specified in the questionnaire). The third place was taken by chat (16,34 %), which is a form of online communication. Again, it was not specified whether the respondents communicate with friends or strangers. Chat was followed by social networks (14,71 %), which is a new and a very popular computer phenomenon. The fifth place was taken by downloading music and films, which is connected with the children's interest in music described as one of the favourite activities in part 1 of the questionnaire. The remaining activities mentioned were e-mails (6,09 %), education (5,79 %) and other activities (1,34 %). Graph 2 gives the same data for girls.

The most frequent activity in girls is the use of social networks (20,16 %) followed by chat with 19,04 %, which demonstrates the difference between the preferences of boys and girls. Girls use the computer more as a means of communication, while for boys it is rather a means of entertainment. The third place in the case of girls was taken by search for information (17,60 %). Downloads of music and films come next (16,16 %). Computer games have mere 12 %, which is almost one half less than in the case of boys. This graph therefore again suggests that girls play computer games much less often than boys. The percentages of the remaining activities are: emails (7,04 %), study

(4,96 %) and other activities (3,04 %).

The results of the survey and verification of hypotheses show that children still spend a great portion of their free time at the computer. Computers are an entirely common part of everyday life and enter the world of leisure time activities of many children. What was impossible to imagine ten years ago has become commonplace today. We should approach computers as useful tools facilitating communication, work and giving access to a huge amount of information. Nevertheless, it is also important to realize that they cannot replace other leisure activities representing healthy lifestyle of contemporary young generation. Parents should certainly offer other options to their children, such as sports, interest groups or time spent with the family and friends. Too much time spent at the computer has its risks and undesirable consequences for health.

#### *2.4.2 Preference for various computer activities*

The need for game is natural for every child. Nowadays, children are surrounded by very sophisticated technological toys practically since their birth. Interactive toys, which are very popular with children, flash, move, play melodies or even talk. The lures of publicity and various catalogues capture the attention of parents and children since very young age, the strategies of producers and retail chains are perfect and impossible to fight or resist. Therefore, it is not surprising that if the child plays with sophisticated technological toys since his/her infancy, the computer seems common to him/her. Children like to try something new, appealing and interesting. It is impossible to prevent technological development and progress or completely forbid the children to use computers, nevertheless, it is important to consider alternative possibilities. It is desirable to introduce computers to the children step by step, set clear rules restricting their use and ensure that they will be observed. (Nešpor, 1999) Games clearly are natural activities for children, who should be offered the choice of various leisure time activities, which the parents encourage and are able to take part in them. The results of our survey already showed that the computer is one of the most frequent means of spending free time in children at secondary schools. Computer games are one of their favourite activities, especially in boys. Computer games can simulate situations in which many players never find themselves in real life. Players identify with heroes and experience the feeling of dauntlessness, the games stimulate competitiveness, logical and strategic thinking. These possibilities of self-realization and active participation in the game are appealing mainly to boys. The data based on the questionnaires brought information about the number of children who play computer games, the time spent playing and their preferences for particular genres of games. The results suggest that boys play computer games more than girls. Almost 46 % of girls play no computer games, while 94 % of boys do play computer games and mere 6 % do not. 20 % of boys and 23 % of girls play one game, 24 % of boys and 19 % of girls play two games. It is alarming that 50 % of boys play more than two games, while the same figure for girls is mere 12 %. A statistically significant correlation between playing computer games and gender was confirmed.

It is clear from the survey that computer games are still very popular with boys at secondary schools. We also intended to find out which types of games children prefer. We worked with the categorization of games devised by Černochová, Komrská & Novák (1998), who differentiate between the following genres: combat games, simulations, strategy games, puzzles, 3D-action games, sports games, adventure games, online games and other. The respondents were allowed to select more than one option. Boys like mainly online games and combat games, simulations and strategy games follow. Girls also prefer online games, followed by puzzles and strategy games.

Another area of our research was the average time spent playing one of the computer games. According to the results 12 % of boys and 48 % of girls play one game for less than 30 minutes. The next option (30 minutes to 1 hour) was selected by 41 % of boys and 28 % of girls and the last option (I play the game for more than one hour) was selected by 47 % of boys and 24 % of girls. We may therefore state that on average, almost one half of boys (47 %) who play computer games spend more than one hour a day playing. Moreover, a statistically significant dependence on gender in this area was confirmed.

#### *2.4.3 The awareness of the risks connected with the use of computers and social networks*

Computer games are becoming more and more sophisticated thanks to new technologies and lifelike graphics capable of drawing the player into their reality. Furthermore, the games are more accessible, even very young children being able to download them from the Internet. According to the opinions of experts, computer games can

be a springboard for crimes, pathological behaviour and increased aggression in the society. The player feels as a mighty hero and is incapable of separating the virtual reality from the real world. S/he does not perceive the suffering of victims in combat and action games and consequently killing in reality does not appear frightful to him/her. The experts further point out the connection between the increasing violence in virtual reality and very frequent bullying and aggression in young people. One of the aims of the study was to learn whether children are aware of certain risks connected with playing computer games, whether they have been told about them and know something about them. 70 % of girls and 62 % of boys have already heard or know about the risks of frequent playing. Nevertheless, it is difficult to estimate whether the information is sufficient to dissuade children from playing.

The limitless possibilities which the computer brings are largely due to the Internet. It is a huge world of information which the children navigate skilfully and fearlessly and which offers communication, entertainment and freedom. This is truly compelling for most children, which many experts, schools but also responsible parents realized in the past few years. That is why one of the objectives of this study was to find out whether children are aware of the risks connected with computer use and communication via social networks. (Palyza, 2011) We assumed that the majority of children know the risks or at least heard about them, nevertheless, it is important to observe certain rules and be responsible. 92 % of girls and 79 % of boys have a profile in one of the social networks. These figures confirm the significance of social networks as a phenomenon of the present day, which is very popular, especially with young people. Social networks have become a trend mainly among children and young people, they enable communication with the whole world. The Internet is flooded with countless webpages used by people from the whole world to meet in virtual reality, communicate, share information, videos and pictures, exchange contacts and discuss their hobbies. The list of activities and possibilities at social networks is very long and beside a number of assets it brings a relatively large number of risks and dangers. Experts (Šmahel, 2003; Palyza, 2011) warn about the danger of personal data being stolen and abused. Children willingly share private information, e.g. about their interests, studies, activities or friends and the information spread very fast among a large number of people. Data of this nature as well as photos and videos may be easily abused. Another danger consists in the creation of fake profiles designed to gain the children's trust. Therefore, children should know about these risks, which may produce more problems. Many young people defend themselves claiming that their profile is not public and their messages and photos are only accessible to their friends. However, they do not realize that even their friends and family may abuse the data. It is desirable to warn the children but also their parents about the risks and explain how to protect themselves from possible consequences.

Further inquiry focused on whether children used social networks for what is considered high-risk behaviour, such as chatting with strangers and discussing their personal problems with them. The results showed that 40 % of boys and 45 % of girls chat, i.e. communicate, with strangers whom they never met in person. Another finding is that respondents do not talk about their private matters and worries with strangers – 86 % of boys and 95 % of girls do not write about their problems on the chat. Another risk consists in making personal photos public at social networks. Contemporary young people take pleasure in photographing anyone and anything that they find interesting. The popularity of taking photos is further supported by the fact that modern mobile phones are equipped with a quality camera and photographing and videotaping is easy even for young children. People possess large numbers of photos which they never get printed but simply upload them to a server designed for storing and presenting photographs. These photographs are only accessible to those who know the password. Another possibility to share photos is to use the application at Facebook enabling the upload of a nearly unlimited number of photographs to one's profile. Children do not consider sharing of photographs risky – 69 % of girls and 45 % of boys stated that they upload their photos to public servers. It is clear that girls share photos more than boys. The connections between profiles of friends make the photos accessible to a large number of users, which young people and children often fail to realize. They risk the loss of anonymity and potential abuse of their personal data.

We further verified whether parents know with whom their children chat, which might lower the risk of the abuse of personal data. The results clearly show that parents are no longer really in control over their children's communication via social networks. 35 % of boys and 41 % of girls answered that their parents know about the people with whom they chat. We may compare these figures with a related question asking about whether parents check their children's e-mails. The answers suggest that parents are unaware of whom their children write to over the Internet – the parents of 89 % of boys and 92 % of girls do not check their e-mails at all. We may consider e-



mails to be a substitute for traditional written letters protected by privacy of correspondence. This makes us assume that the majority of parents find it improper to read someone else's letters. Moreover, e-mails are not connected with some of the risks of using chat at the social networks.

The Internet also provides access to information inappropriate for children. Such dangerous webpages may have erotic content or advance violence. (Konečný, 2011) Children are relatively skilful in Internet surfing and capable of circumventing simple measures blocking the inappropriate webpages. Our intention was to ascertain whether parents restrict the access to some unsuitable webpages. The answers show that parents of 46 % of boys and 39 % of girls check the visited webpages, while 54 % of boys and 61 % of girls stated that their parents are not aware of which webpages they visit. These results make it evident that the control on the part of the parents might be much stronger. We must hope that education and prevention in this area increase and parents become more responsible. Furthermore, there are organizations founded specifically for the purpose of protecting children from the dangers connected with the use of the Internet. In total, 76 % of boys and 80 % of girls claim that they observe the rules and do not put their personal data on the Internet. This means that 77,82 % of children observe the rules of safe handling of personal data on the Internet.

#### *2.4.3 The awareness of the risks connected with the use of computers and social networks*

The final part of the survey asked about the pluses and minuses of computers and activities connected with them. The respondents were allowed to select more than one option and add their own. As for the pluses of computers, the option most frequently selected by girls was the use of computers in many different fields, while boys selected mainly the option of the computer as a means of entertainment. The second most frequent answer given by girls was easy text processing plus access to information and entertainment, followed by storage of data. Boys put access to information second, followed by storage of data, easy text processing, and the use in many fields coming as the next-to-last option. Other options frequently added by the respondents include downloading of films and supplementary tool of education.

As far as the minuses are concerned, both boys and girls put addiction to computers first, possible criminality and pathological phenomena second and loss of communication and real relationships third. Both genders further selected time consuming nature of computer use, followed by the loss of anonymity. The most frequent other options included mainly medical issues caused by computers such as deterioration of sight, headache and backache. The overview of answers clearly indicates that children are aware of certain risks and dangers connected with computers. On the other hand, the pluses of computer use prevail. Children cannot imagine their lives without computers, which is a development that we cannot stop.

The interviews with teachers suggest that information technologies entered the teaching of almost all subjects at secondary schools. The teachers use projectors connected to the computer to present information, pictures and videos. The teachers teach the children to make efficient use of the advantages of computers and also warn them about the possible risks. However, schools do not use software blocking inappropriate webpages. Another desirable thing is the cooperation with parents, which helps them not to underestimate the risks connected with the use of computers and the Internet.

### **3. Conclusion**

Computers have become a common tool in our households, therefore parents should be aware of all the risks connected with their use by children. In functional families, computers are regarded as creative toys providing entertainment for the child but also access to information and essential help with study and work. It is useful to set clear rules of computer use, which the children should observe from the very beginning. The world of computers may have a positive educational influence on children and we cannot forbid the children to enter it or ignore it. It is desirable to explore it and spend our leisure time at the computer together with the children. Nevertheless, the computer cannot replace face-to-face communication and real family relationships, therefore, parents should know about the computer activities in which their children engage.

Černochová, Komrská & Novák (1998) summarized some of the recommendations for parents concerning the work with computers:

- Choose computer games for the children carefully, try to be well informed about the supply and respect the

child's preferences.

- Monitor how much time the child spends at the computer and provide alternative activities, such as going out, sports or other hobbies.
- Work with the computer together with the child, be interested in his/her computer activities and the people with whom s/he communicates.
- Require specific results of work with the computer, help the child to search for information and process it;
- Set time limits restricting computer use.
- Do not use the computer as a reward or punishment.

The objective of the present study was to draw the attention to the time spent by children by playing computer games as well as the possible problems which computer games might cause. Playing of computer games have no significant benefits, it is often a mere means of combating boredom or making up for bad relationships and communication in the family. Parents are very busy and the present global unfavourable economic situation contributes to fact that children spend little time with their parents and do not engage in more appropriate leisure time activities. Therefore, it is important that experts and teachers should warn about the risks connected with too frequent use of computers.

Healthy lifestyle and good use of free time should be a priority for all young parents, especially given the possibility to spend the time in a meaningful way and with minimal expenses. All we need is to find the time. Still, it should clearly be very easy to find considering how much of it we devote to entertainment and communication over the Internet.

## References

- Černochová, M., Komrska, T. & Novák, J. (1998) *The use of computers in the classroom: suggestions for working with children computer*. Praha: Portál, 168 p. ISBN 80-7178-272-6.
- EU Kids.(2011) *Risks and safety on the Internet: the perspective of European children* [online]. [cit. 2012-04-27]. Available from: <http://www.eukidsonline.net/>
- Charvátová, G. (2007) *The game world and its influence on our lives* [online]. MU Brno [cit. 2012-04-26]. Available from: [http://is.muni.cz/th/135429/pedf\\_b/bak.prace.pdf](http://is.muni.cz/th/135429/pedf_b/bak.prace.pdf).
- Konečný, Š. (2011) *The phenomenon of lying on the internet*. Brno: Masarykova univerzita, 103 p. ISBN 978-80-210-5488-2.
- Kraus, B. (2014) *Fundamentals of social pedagogy*. Praha: Portál, 216 p. ISBN 978-80-262-0643-9.
- Nešpor, K. (1999) *Computers and health*. Praha: Ben, 96 p. ISBN 80-86056-71-6.
- Palyza, J. (2011) Social Networks: Age and Privacy. *Leadership of school*. Issue 6. ISSN 1214-8679.
- Pávková, J. et al. (2008) *Pedagogy of leisure time*. Praha: Portál, 224 p. ISBN 978-80-7367-423-6.
- Saferinternet (2009) Social Networks. *Saferinternet* [online]. [cit. 2012-03-17]. Available from: <http://www.saferinternet.cz/>
- Šmahel, D. (2003) *Psychology and the internet: adult children, adult children*. Praha: TRITON, 158p. ISBN 80-7254-360-1.
- Žumárová, M. (2001) Lifestyle and its formation. In Kraus, B. et al. *Human - Environment - Education*. Brno: Paido, p. 156-163. ISBN 80-7315-004-2